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ABSTRACT

Attitude toward reading is an important educational outcome and evaluative criteria due to its relationship to reading behavior and the refinement of reading skills. However, existing scales for assessing reading attitudes are invalid, are constrained by a ceiling effect, or are difficult to administer. A reading attitude assessment package was developed to overcome some of the inadequacies of these scales. The resulting measures were reliable and special provisions were made for testing primary level students. The relationship of the scores to reading achievement, reading behavior, and home environment is discussed. (Author)

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Measuring Attitudes Toward Reading in Large Scale Assessment

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TM005 590

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A problem as fundamental as assessing reading skills is the determination of motivation to read. Will children read given the opportunity? The value of reading skills is in their use rather than their possession, and the amount and type of reading one does is, to a large degree, dependent upon ones attitudes.

Attitudes toward reading have yet another value. Reading specialists have come to realize that attitudes are crucial to learning to read. A child will usually not attempt to learn anything unless he or she is interested. Furthermore, as with any other skill, competence in reading can only be developed through practice. The varied reading experiences that the motivated reader engages in independently are crucial for integrating and elaborating the skills one develops during reading instruction. The more a child reads, the more likely he will become a fluent reader.

It is apparent, then, that attitudes are crucial factors in the development and utilization of ones reading potential, and are a vital concern for reading programs. We must make explicit the importance of attitudinal outcomes as educational objectives and as evaluative criterion of the success of a reading instruction program. With this need in mind, the Pennsylvania Right to Read office contracted the Center for Cooperative Research with Schools (CReWS) to collect and report attitudinal data from schools participating in the program.

Development of an Attitude Toward Reading Scale

Through a review of the literature, nine reading attitude scales were selected for possible use (Askov & Fischbach, 1973; Estes, 1972; Lowery & Grofft, 1968; Rowell, 1972; Schotanus, 1967, Peifer, Note 1: San Diego County, Note 2; Sartain, Note 3). Upon close scrutiny however, each of the scales were

found to be inadequate according to several reliability, validity, or usability criteria. The results of this examination revealed:

1) Only three scales provided estimates of reliability.

2) Only three scales showed evidence of the use of item analysis during scale construction.

3) Descriptive statistics, when available, suggested a ceiling effect with little discrimination.

4) Only two scales provided evidence of validity.

5) Most of the scales consisted of items which were:

   a) poorly written by conventional standards for item writing (Edwards, 1957),

   b) difficult for children to understand due to the length and complexity of the sentences,

   c) inappropriate because they did not deal with feelings toward reading.

6) Only one scale was constructed with primary level students in mind.

7) Five scales used an inefficient or difficult score response format such as pair comparisons of pictures, behavioral observation, or projective tasks.

From these findings, it was clear that no existing scale fulfilled the needs of the Pennsylvania Right to Read Evaluation and new scales would have to be developed. The items would have to be content valid, follow conventional items writing criteria, and be refined through item analysis. The scale would have to be short, reliable, and easy to score. In addition, special provisions would have to be made to guarantee that the wording and nature of the task was easily understood by the respondents and that the scores exhibited sufficient variability.

To develop an adequate attitude scale measuring general feelings toward reading, the Likert scaling model was chosen. The format of Likert items requires that the respondent agree or disagree with each of a series of evaluative

statements. Agreement with the statement is usually indicated on a five-point scale, such as: strongly disagree, disagree, not sure, agree, strongly agree. This procedure is probably the most efficient "paper and pencil" method for assessing attitudes, providing the most reliable measure with the least items (Seiler & Hough, 1970). In addition, Likert scales are easily adapted for machine scoring, a must for large scale testing.

To construct the reading attitude scales,the first step for the item writing team was to generate a pool of evaluative statements about reading, reading activities, and books. These items were both positively worded (favorable toward reading) and negatively worded (unfavorable toward reading). The items were then evaluated by the team and rewritten to ensure that each item reflected a concern for content validity and for opinion statements which were not too extreme. Thus, to avoid the tendency for students to indicate overly positive attitudes, moderately worded statements (e.g., "I would rather work on other things than read.") were written which represented different degrees of positive or negative attitude. This is analogous to choosing achievement items with a difficulty of .40 to .60, since it increases the variability of the scores and allows for finer discrimination between levels of attitude. Some strongly worded items (e.g., "I love reading" or "I hate reading.") were included to reduce possible problems of a response set.

It was obvious that the reading ability of first, second, and third graders would not be sufficiently developed to read all of the statements in the item pool. It was clear that the primary form of the test would require simple language and an oral rather than written presentation format. Thus, two forms of the scale were developed, a primary form (grades 1-3), which was read to the child, and an intermediate form (grades 4-6) which the child read. The content of the two instruments remained similar.

The scale for the primary grades presented special problems. Interviews with first and second graders revealed that even when the items are read aloud by the teacher, many had difficulty understanding and responding to some attitude items. Having to disagree with a negatively worded item was particularly confusing, particularly a statement with a negative, such as "I do not like to read." Such items were reworded to eliminate the negative as in "I hate to read." In addition, young children usually cannot reliably choose among more than about three choices. The usual response of the test constructor is to provide a yes-no or true-false format. This procedure, however, generally fails to discriminate between levels of attitude, especially since there seems to be a strong tendency for young children to answer very positively to reading attitude scales. After trying several procedures with young students, a three-choice format (not really - sometimes - a lot) was developed so that there were more than two choices and better discrimination among positive responses. The usefulness of the procedure was demonstrated through both individual interviews and grouping pilot-testing.

With the large number of instruments which were to be administered, provisions had to made for scoring. Since optical scanning equipment was available, machine scoreable forms were selected for the intermediate form. However, scoreable forms have not been very successful with the early primary grades. For the primary form, circling the desired response seemed more appropriate even though this format required that the answers be transferred manually to a machine scoreable form or keypunched at a later time.

Once an adequate sample of items had been assembled and the answer sheets developed, both forms of the scale were piloted on a sample of about 150 students at the appropriate grade levels. The data obtained from this field test were

item analyzed. Although both scales were shown to be quite reliable with coefficient alpha ranging between .85 and .90, it was apparent that several refinements were necessary. Items with low item-total correlations were deleted. Since the means on both forms were higher than expected, a ceiling effect was still operating to some extent. Several items were rewritten to elicit responses which were less extreme.

Evaluation of the Attitude Toward Reading Scale

The product of this effort was a highly reliable scale measuring attitudes toward reading, which reduced the effects of most of the shortcomings of existing scales. The final Attitudes Toward Reading Scale may be found in Appendix A along with the answer sheets and a brief test manual. Two sample items, one positively worded and one negatively worded, were provided to ensure that the students understood the tasks. The primary scale, with 20 items, is read to the class by the teacher. The primary student (grades 1-2) responds on a three-point scale in terms of how the statement matches his feelings (not really - sometimes - a lot) by circling the desired response. The intermediate scale, with 22 items, is read by the student himself. The intermediate student (grades 4-6) responds on a five-point scale in terms of the degree to which he agrees with statement (strongly disagree - disagree - not sure - agree - strongly agree). Half of the items in each form were reversed for scoring purposes. The scale requires only about twenty minutes to administer and is easily adapted for hand or machine scoring.

The psychometric qualities of the present scale can be easily seen from the descriptive statistics reported in Table 1 which were obtained by testing a 20 percent sample of students from districts involved in the Pennsylvania

Table 1

Descriptive Statistics on the Attitude Scores from a Sample of Right to Read Districts

	Grade					
	1	2	3	4	5	6
Form of Scale	Primary	Primary	Primary	Inter-mediate	Inter-mediate	Inter-mediate
Number of Students	518	661	858	627	839	590
Median Attitude Score	41.6	39.0	38.4	82.3	81.6	76.8
Minimum/Maximum Score	20/60	22/60	20/60	26/110	32/110	24/110
Mean Attitude Score	42.3	40.2	39.0	80.4	79.2	75.5
Standard Deviation	6.6	6.2	4.5	16.5	16.0	17.3
Skewness[a]	-.42	-.67	-.53	-.46	-.46	-.42
Kurtosis[a]	-.30	.16	-.59	-.26	-.29	-.10
Reliability[b]	.82	.88	.93	.91	.93	.92

[a]A value approaching zero suggests a normal distribution.

[b]The reliability estimate reported is Cronbach's Coefficient Alpha, an index of internal consistency, which was based upon a subsample of 200 students at each grade level.

Right to Read program. Both forms appear to be quite reliable, with coefficient alpha over .90 in all but grades 1 and 2. The means are slightly above the scale mid-points (40 for primary and 66 for intermediate) giving the score distributions a slight negative skew, but not enough to suggest a ceiling effect. The standard deviations indicate that there is sufficient variability in the scores and the slightly negative values for skewness and kurtosis are close enough to zero to suggest a distribution not significantly different than a normal one.

To provide some information about the validity of the scale and to stimulate further research, six informational items were included with the attitude items to ask questions concerning reading behaviors and home reading environment. Since attitudes indicate a general predisposition to react in a positive way toward an object, reading attitudes should be related to the degree to which one engages in reading or behaviors which support reading (e.g., going to the library). The kind of encouragement provided by parents, the presence of books in the home, and the example which parents set are variables reflecting the home reading environment which should relate to the development of reading attitudes.

As Fishbein (Fishbein & Ajzen, 1974) has pointed out, multiple behavioral criterion are better indices of behavioral predispositions, and tend to be more highly correlated with conventional attitude measures. A specific behavior is highly determined by social, personality, and situational factors which reduce the influence of attitudes on that behavior. For this reason, multiple regression was used to determine the degree of relationship between expressed attitude and a composite of the six reading behavior and environment variables. Table 2 presents the multiple correlation for each grade level. The correlations,

Table 2

Multiple Correlations Between Attitude Scores
And The Reading Behavior And Environment Items

Grade	N	R	R^2	F
1	287	.24	.06	2.95**
2	407	.24	.06	3.95**
3	379	.23	.05	3.43**
4	232	.58	.34	19.19**
5	361	.58	.34	30.48**
6	254	.68	.47	36.11**

** $p < .01$

although low for the primary grades, provide evidence of the validity of the Attitude Toward Reading Scale and support for the notion that there is a strong relationship between expressed reading attitudes and reading behaviors. This relationship would warrant further study using more refined behavioral variables than those in the present study.

In an earlier Right to Read evaluation, reading comprehension scores had been collected for the same students who were part of the attitude assessment. Since attitudes are thought to have a role in the development of reading skills, an attempt was made to merge the two data sets and obtain correlations between comprehension scores and attitudes, using only the data from students who had taken the Reading subscale of the Metropolitan Achievement Test in April of the previous school year.

The correlations were inconsistent ranging from -.22 to .32. There is no apparent explanation for these inconclusive results. At least one other study (Askov & Fischbach, 1973) has reported similar correlations of attitude and comprehension at the primary level, suggesting that the hypothesized role of attitudes in the development of reading skills should be subjected to a more rigorous examination.

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2. San Diego County, California, Reading Attitude Inventory, Department of Education, 1961.

3. Sartain, H. Reading Attitudes Inventory, University of Pittsburgh.

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APPENDIX A
Attitude Testing Package

ATTITUDES TOWARD READING SCALE

PENNSYLVANIA RIGHT TO READ

This scale was developed to overcome deficiencies in other attitude scales, especially the tendency for students to indicate overly positive attitudes. Both forms of the scale are quite reliable with a conservative estimate of reliability at about .91.

There are two forms of the scale: for grades 1-3 and for grades 4-6. The primary scale is read to the child and has a three choice format on a hand-scored answer sheet. The intermediate scale is read by the child himself and has a five choice format on a machine-scoreable answer sheet.

The first six items ask for descriptive information. The remaining items are worded either positively or negatively, where positive attitudes are indicated by agreement with positively worded items and disagreement with negatively worded items. Each item may be scored as follows:

Grades 1-3	not really	a little	a lot
positively worded	1	2	3
negatively worded	3	2	1

Grades 4-6	(disagree)	A	B	C	D	E	(agree)
positively worded		1	2	3	4	5	
negatively worded		5	4	3	2	1	

The negatively worded items are:

Grades 1-3
12, 14, 16, 19, 20, 22, 23, 25, 27, 29

Grades 4-6
10, 12, 13, 14, 16, 18, 19, 22, 27, 28, 30

All others are positively worded. Do not score the sample items.

Attitudes Toward Reading

Pennsylvania Right to Read Program

Please make sure that everyone has an answer sheet and a pencil. Tell the children that this is a survey to find out how they feel about books and reading. There are no right or wrong answers, they are to answer the way they feel. They should use their pencil to circle the answer they choose.

Please read each sentence twice and leave time for them to answer.
The first seven items are questions. Read the first question which is an example. Instruct them to circle "never" if they never jump rope, "sometimes" if they jump rope once in awhile, and "a lot" if they do it quite often.

1. How often do you jump rope?

   never sometimes a lot

2. How much do you read at home?

   none a little a lot

3. How often do you go to the library?

   never sometimes a lot

4. How many library books do you get from the library each week?

   none a few many

5. How many books of your own do you have at home?

   none a few many

6. How much do your parents read?

   none a little a lot

7. When you were younger, how often did your parents read to you?

   never sometimes a lot

For the remaining items, the students will have to listen to the sentence and decide if they don't really feel that way, feel that way a little, or feel that way a lot. (The choices are "not really", "a little", and "a lot.") Read number 8. Instruct them to circle "a lot" if they like ice cream a lot, "a little" if they like ice cream a little, and "not really" if they don't like ice cream. Read number 9. If they really do like cookies, they should circle "not really." If the children have no questions, please proceed.

8. I like ice cream.
   not really a little a lot
9. I hate cookies.
   not really a little a lot
10. I love reading.
11. I feel good after I've read a book.
12. I get tired of reading.
13. I would be happy to get a book for my birthday.
14. Reading school books is a waste of time.
15. Reading stories can be a lot of fun.
16. Playing is more fun than reading.
17. It is fun to read books.
18. I like to find books to read.
19. I hate to read.
20. I would rather play than read.
21. I can learn things from reading books.
22. I think reading books is silly.
23. I want to be absent from reading class.
24. I want more time in school to read.
25. I get tired of reading stories.
26. It is good to know how to read.
27. I hate reading books in school.
28. I would rather read than work on other things.
29. Reading is the worst part of my day.

DISTRICT_____

GRADE_____

STUDENT NO._____

1.	NEVER	SOMETIMES	A LOT
2.	NONE	A LITTLE	A LOT
3.	NEVER	SOMETIMES	A LOT
4.	NONE	A FEW	MANY
5.	NONE	A FEW	MANY
6.	NONE	A LITTLE	A LOT
7.	NEVER	SOMETIMES	A LOT
8.	NOT REALLY	A LITTLE	A LOT
9.	NOT REALLY	A LITTLE	A LOT
10.	NOT REALLY	A LITTLE	A LOT
11.	NOT REALLY	A LITTLE	A LOT
12.	NOT REALLY	A LITTLE	A LOT
13.	NOT REALLY	A LITTLE	A LOT
14.	NOT REALLY	A LITTLE	A LOT
15.	NOT REALLY	A LITTLE	A LOT

16. NOT REALLY A LITTLE A LOT

17. NOT REALLY A LITTLE A LOT

18. NOT REALLY A LITTLE A LOT

19. NOT REALLY A LITTLE A LOT

20. NOT REALLY A LITTLE A LOT

21. NOT REALLY A LITTLE A LOT

22. NOT REALLY A LITTLE A LOT

23. NOT REALLY A LITTLE A LOT

24. NOT REALLY A LITTLE A LOT

25. NOT REALLY A LITTLE A LOT

26. NOT REALLY A LITTLE A LOT

27. NOT REALLY A LITTLE A LOT

28. NOT REALLY A LITTLE A LOT

29. NOT REALLY A LITTLE A LOT

Attitudes Toward Reading

Pennsylvania Right to Read Program

This is a survey to find out how you feel about books and reading. There are no right or wrong answers, just answer the way you feel. Please use a pencil to mark your answers on the answer sheet. Here is an example:

How often do you play baseball?

never	sometimes	often	very often
A	B	C	D

If you think that "often" is the best choice for you, then you would fill in the slot marked "C" on the answer sheet with your pencil like this:

If you never play baseball, then you would mark "A" on your answer sheet. Do not mark the slot under the letter "E" for questions 1 through 6.

1. How often do you read at home?

never	sometimes	often	very often
A	B	C	D

2. How often do you go to the library?

never	sometimes	often	very often
A	B	C	D

3. How many library books do you read each week?

none	1	2	3 or more
A	B	C	D

4. How many books of your own do you have at home?

none	a few	many	very many
A	B	C	D

5. How often do your parents read?

never	sometimes	often	very often
A	B	C	D

6. When you were younger, how often did your parents read to you?

never	sometimes	often	very often
A	B	C	D

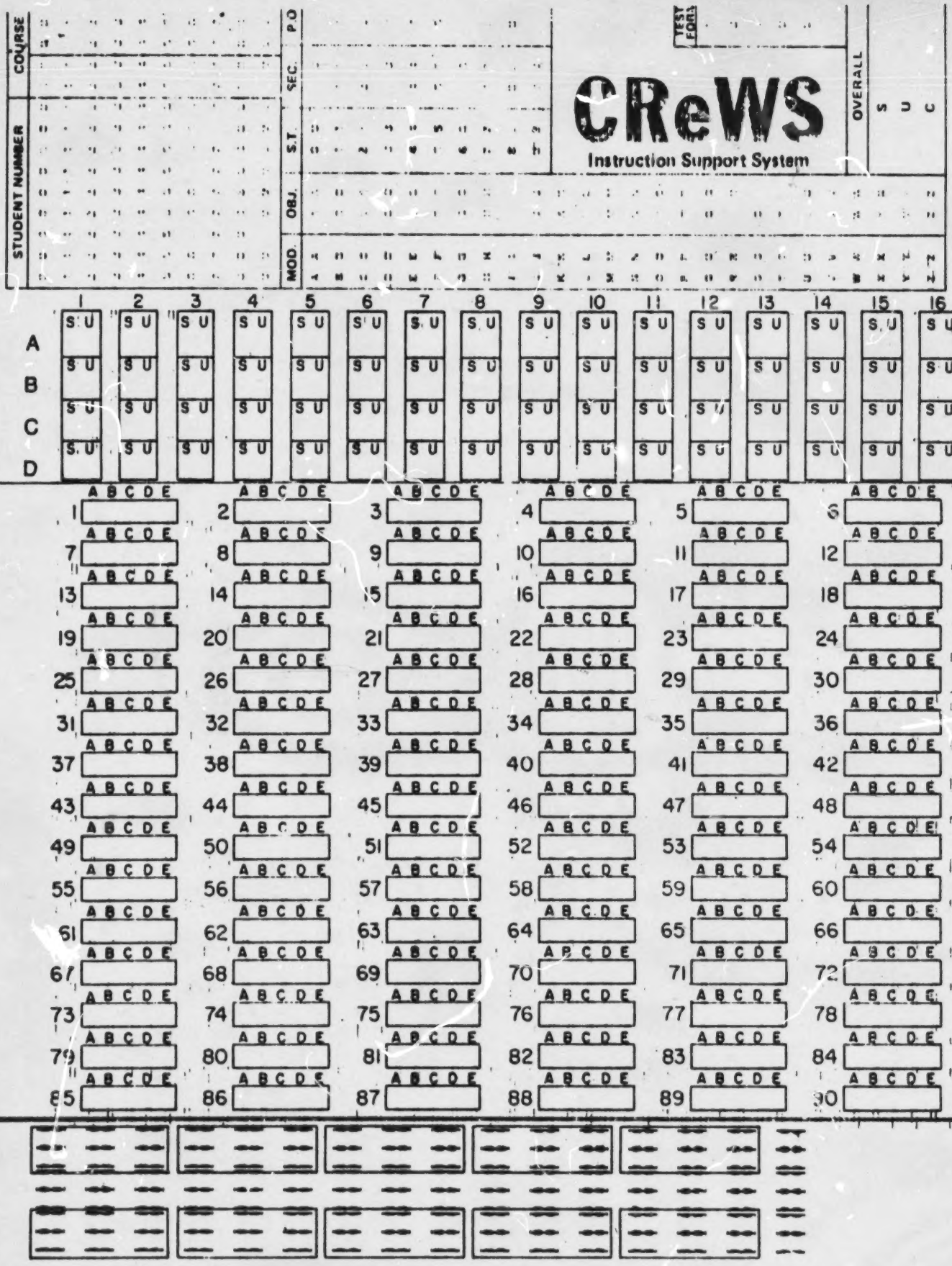
When you read each sentence on this page, decide if you agree or disagree with it. For all the sentences, choose between the following:

strongly disagree	disagree	not sure	agree	strongly agree
A	B	C	D	E

For example, read number 7 below. If you really like ice cream, then mark "E" for strongly agree on the answer sheet. If you sort of like ice cream, mark "D" for agree. If you don't like ice cream mark "B" for disagree. If you are not sure, mark "C".

Read number 8. If you really do like cookies, then mark "A" or "B" to disagree with the sentence.

7. I like ice cream.
8. I hate cookies.
9. There should be more time in the day for reading.
10. I hate reading.
11. Reading stories can be very exciting.
12. Reading is something I can do without.
13. Playing is more fun than reading.
14. Most books are very boring.
15. Reading is the best part of my day.
16. I do not like to spend my time reading.
17. I love to read.
18. I think we spend too much time on reading in school.
19. Reading is the worst part of my day.
20. I like to find library books to read.
21. Reading is a good way to spend my free time.
22. Stories are usually not good enough to finish.
23. I can learn many things from reading books.
24. Reading a book is rewarding to me.
25. There are many interesting things to read.
26. It is fun to read books.
27. Reading school books is a waste of time.
28. I would rather not read at all.
29. I would rather read than work on other things.
30. I don't like to get books for my birthday.


COURSE
STUDENT NUMBER
SEC.
P.O
S.T.
OBJ.
MOD.
TEST FORM
OVERALL
S U C
CReWS
Instruction Support System
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16
A
B
C
D
S U
A B C D E
1 2 3 4 5 6
7 8 9 10 11 12
13 14 15 16 17 18
19 20 21 22 23 24
25 26 27 28 29 30
31 32 33 34 35 36
37 38 39 40 41 42
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